

15870/US Hz

PATENT CLAIMS

(as originally filed and published)

1. A carrier (10) for at least one specimen chamber (11), in particular for cryoconservation of biological specimens, comprising a mounting frame (20) which is adapted for positioning the specimen chamber (11), characterized in that the mounting frame (20) has a first frame part (30) and a second frame part (40) which can be joined together detachably using connecting elements (50) and which come in contact on side faces (31, 41) in the assembled state, wherein the specimen chamber (11) can be secured between the side faces (31, 41).
2. The carrier according to Claim 1, wherein one of the side faces (31) is flat and the other side face (42) has a profiling so that receptacle elements (21-26) are formed between the side faces (31, 41) and the specimen chamber can be secured in these receptacle elements when the mounting frame (20) is assembled.
3. The carrier according to Claim 1, wherein both side faces (31, 41) have profiling so that receptacle elements (21-26) are formed between the side faces (31, 41) and the specimen chamber can be secured in the receptacle elements when the mounting frame (20) is in the assembled state.
4. The carrier according to one of the preceding claims, wherein the receptacle elements (21-26) have an oval, triangular, rectangular or slotted cross section.
5. The carrier according to one of the preceding claims, wherein the connecting elements (50) comprise fitting webs and grooves and/or pins and bushings on the side

faces.

6. The carrier according to Claim 5, wherein the webs, grooves, pins and/or bushings have latching profiles.
7. The carrier according to one of the preceding claims, wherein one of the frame parts (30) has tension pins (34) on its outside, each tension pin being aligned with respect to the receptacle elements so that stretching of the specimen chamber (11) on the frame part (30) is made possible.
8. The carrier according to one of the preceding claims, wherein the frame parts (30, 40) are pivotably joined together on one side.
9. The carrier according to one of the preceding claims, wherein the frame parts each have outer frame elements which form a rectangular shape of the mounting frame (20).
10. The carrier according to Claim 9, wherein the frame parts are equipped with inner frame elements which also form receptacle elements in the assembled state so that the specimen chamber (11) can be secured in the receptacle elements.
11. The carrier according to one of the preceding Claims 1 through 8, wherein the frame parts each consist of frame elements (35) which extend outward radially in a star shape.
12. The carrier according to one of the preceding claims, which is connected to a data memory device (60) having at least one data memory (61).

13. A cryostorage device, comprising a carrier (10) according to one of the preceding claims and at least one specimen chamber (11) of a flexible, elastically deformable material.
14. The cryostorage device according to Claim 13, wherein the at least one specimen chamber (11) is in the form of a hollow cylinder, a hollow cone, a pipe, a tube, a channel or a hollow needle.
15. A method for storage of at least one suspension specimen in a low-temperature state, comprising the steps of:
  - accommodating the at least one suspension specimen in at least one specimen chamber (11) made of a flexible elastically deformable material,
  - mounting the specimen chamber (11) in a carrier (10) according to one of the preceding Claims 1 through 13, wherein the specimen chamber (11) is secured between the frame parts (30, 40), and
  - converting the suspension specimen to a low-temperature state by positioning the carrier (10) with the specimen chamber (11) in a cryomedium.
16. The method according to Claim 15, wherein the receptacle of the at least one suspension specimen into which at least one specimen chamber is inserted by immersing the at least one specimen chamber (11) with one inlet end into a specimen reservoir (70) and transferring the suspension specimen under the influence of a vacuum applied to the corresponding outlet end or under the influence of capillary forces.
17. The method according to one of Claims 15 or 16, wherein at least one partial specimen is detached from

the at least one specimen chamber (11) in the low-temperature state by mechanical separation.

18. The method according to Claim 17, wherein the mechanical separation comprises cutting off chamber sections (12) of the specimen chamber (11) adjacent to the frame elements of the carrier (10).